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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/380,203	04/25/2000	SUZANNE DE LA MONTE	0609.4370001	2325

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EXAMINER
WHITEMAN, BRIAN A

ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 04/09/2002

21

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/380,203	DE LA MONTE ET AL.	
	Examiner	Art Unit	
	Brian Whiteman	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,10-13 and 35-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,10-13 and 35-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *13* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Final Rejection

Claims 1-6, 10-13, and 35-38 are pending examination.

Cancellation of claims 7-9 and 14-34, addition of claims 35-38, amendment to claims 1, 3, 4, 10-11, amendment to specification (cross reference), and applicants' traversal is acknowledged and considered in paper no. 20 filed on 1/16/02.

Claim Objections

Applicants' traverse that the objections for claims 1, 3, 4, and 11 should be withdrawn for the following reasons: Amendment to claims 1 and 11; correct misspelling of the word "virion" in claim 3; and the objection to claim 4 being objected because it is dependent on a rejected base claim for reasons set forth on pages 6-9 of applicants' traversal. See pages 6-9 of paper no. 20.

Applicants' traversal is acknowledged and is found persuasive for claims 1, 3, and 11 for the reasons set forth above.

However, applicants' traversal is acknowledged and is not found persuasive for claim 4 because the rejections under 112 first remain for claim 1 for the reasons listed below.

Furthermore, in view of the amended claims (claim 11) and the new claims (claims 35-38), a new ground of objections is required.

Claims 11 and 35-38 are objected to as being dependent upon a rejected base claim (claim 1), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Information Disclosure Statement

Examiner noted that the IDS filed on 2/14/00 was missing because the application's cover indicated that an IDS was filed as paper no. 9 filed on 2/14/00. Examiner cannot locate this paper no. and in view of the applicants' statement that they did not submit an IDS on 2/14/00, the IDS paper no. 9 will be removed from the application cover.

Furthermore, to complete the IDS part of the application, the examiner request that the IDS filed on 12/3/99 be filed with the response to this office action because the IDS filed on 12/4/00 is missing.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1, as best understood, is readable on a genus of a DNA molecule of SEQ ID NO: 1 or a DNA molecule which is at least 40% homologous to SEQ ID No: 1, or a fragment thereof, wherein said DNA molecules codes for a protein that has an activity of AD7c-NTP when expressed in neuronal cells, wherein the genus of the DNA molecule is not claimed in a specific biochemical or molecule structure that could be envisioned by one skilled in the art at the time the invention was made.

The specification contemplates fragments of the DNA molecule that code for proteins having the activity of SEQ ID NO: 1, which induces neuritic sprouting, nerve cell death, nerve cell degeneration, neurofibrillary tangles, and/or irregular swollen neurites in a host which expresses the DNA sequence (page 18, lines 28-30 and page 20, lines 1-2). The disclosure

provides sufficient description for a cDNA designated AD7c-NTP (SEQ ID No: 1) possessing the biological properties listed above. However, the specification does not provide sufficient description of a genus of polynucleotide sequences that possess any of the biological characteristics of SEQ ID No: 1. It is not apparent that on the basis of the applicants' disclosure, an adequate written description of the invention defined by the claims requires more than a mere statement that it is part of the claimed invention and reference to potential methods and/or molecular structures of molecules that are essential for the genus of DNA sequences that must exhibit the disclosed biological functions as contemplated by the specification.

It is not sufficient to support the present claimed invention directed to a genus of polynucleotide sequences, which induce neuritic sprouting, nerve cell death, nerve cell degeneration, neurofibrillary tangles, and/or irregular swollen neurites in a host. The claimed invention as a whole is not adequately described if the claims require essential or critical elements, which are not adequately described in the specification and which is not conventional in the art as of applicant's effective filing date. Claiming a genus of a DNA molecule of SEQ ID NO: 1 and/or a DNA molecule which is at least 40% homologous thereof, that must possess the biological properties as contemplated by applicant's disclosure without defining what means will do so is not in compliance with the written description requirement. Rather, it is an attempt to preempt the future before it has arrived. (See *Fiers v. Revel*, 25 USPQ2d 1601 (CA FC 1993) and *Regents of the Univ. Calif. v. Eli Lilly & Co.*, 43 USPQ2d 1398 (CA FC, 1997)). Possession may be shown by actual reduction to practice, clear depiction of the invention in a detailed drawing, or by describing the invention with sufficient relevant identifying characteristics such that a person skilled in the art would recognize that the inventor had possession of the claimed

invention. Pfaff v. Wells Electronics, Inc., 48 USPQ2d 1641, 1646 (1998). The skilled artisan cannot envision the detailed structure of a genus of a DNA molecule, which displays at least 40% homology to SEQ ID no: 1 that must exhibit the contemplated biological functions, and therefore, conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the structures and/or methods disclosed in the as-filed specification. Thus, in view of the reasons set forth above, one skilled in the art at the time the invention was made would not have recognized that applicant was in possession of the claimed invention as presently claimed.

Applicants traverse the rejection of claim 1 under 112 written description for the following reasons: Guidelines for Written description indicate that a representative species may be adequately described through its structure, through its functional characteristics, or through a combination of structure and function; Thus, the description of both the structure and the function of the representative species has been provided throughout the specification; One of ordinary skill in the art would know how to generate DNA molecules that share 40% homology with another DNA molecule; Therefore, one skilled in the art would recognize that applicants were in possession of the claimed genus. See pages 6-8.

Applicants' traversal is acknowledged and is not found persuasive because the genus of nucleotide sequences having at least 40% homology to SEQ ID NO: 1 that has an activity of AD7c-NTP is not disclosed in the as-file specification. In addition, the as-filed specification and the traversal fail to provide the essential nucleotide or amino acid residues for a representative number of sequences, wherein each sequence is composed of at least 40% homologous to SEQ ID NO: 1, that has an activity of AD7c-NTP when expressed in neuronal cells.

The as-filed specification does not provide an adequate written description of a representative number of species of DNA molecules with at least 40% homology coding for a AD7c-NTP polypeptide, which functions has an activity of AD7c-NTP when expressed in neuronal cells. It is apparent from the state of the prior art exemplified by Ngo *et al.* (The Protein Folding Problem and Tertiary Structure Prediction, Birkhauser Boston, 1994, pp. 491-494) and Chiu *et al.* that the description of the primary sequence of amino acid residues in which the positions of the amino acid residues are particularly arranged is essential for the biological function of the protein encoded by the sequence. This essential element that is required for an adequate description of a representative number of species as embraced by the claimed genus of AD7c-NTP encoded nucleic acid sequences is neither described sufficiently in the specification nor conventional in the prior art. A mere statement asserting that any sequence having at least 40% homology to the only disclosed AD7C-NTP encoded in SEQ ID NO: 1 without providing the essential and specific arrangement of the amino acid residues positioned in the sequence does not lend evidentiary support for a skilled artisan to have recognized that applicant was in possession of the genus of AD7c-NTP encoded nucleic acid sequences as claimed, particularly since the essential element of the coding sequence of a generic AD7c-NTP is lacking from the as-filed specification and since the skill and knowledge in the art is not adequate or conventional to determine the primary sequence of the representative number of species of AD7c-NTP encoded genes or nucleic acids on the basis of the only disclosure of one AD7c-NTP protein encoded in SEQ ID NO: 1.

Vas-Cath Inc. v Mhurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was

in possession *of the invention*. The invention is, for purpose of the 'written description' inquiry, *whatever is now claimed.*" The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath, See MPEP 2163).

With the exception of SEQ ID NO: 1 or the nucleic acid sequence encoding SEQ ID NO: 2, the skilled artisan cannot envision the detailed chemical structure of the encompassed polynucleotides and/or proteins, regardless of the complexity or the simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. The nucleic acid itself is required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993) and Amgen Inc. v Chugai Pharmaceutical Co. Ltd., 18 USPQ 1016. In Fiddes v. Baird, 30 USPQ2d 1481, 1483, claims directed to mammalian FGF's were found unpatentable due to lack of written description for the broad class. The specification only provided the bovine sequence.

Finally, University of California v. Eli Lilly and Co., 43 USPQ2d 1398, 1404, 1405 held that:

> ...To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention." *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (1997): *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989) ("[T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed."). Thus, an applicant complies with the written description requirement 'by describing the invention, with al it claimed limitations, not that which make it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc. that set forth the claimed invention." *Lockwood*, 107F.3d at 1572, 41 USPQ2d at 1966.
>
> An adequate written description of a DNA, such as the cDNA of the recombinant plasmid and microorganisms of the '525 patent, "requires a precise definition, such as by structure, formula, chemical name, or physical properties," not a mere wish or plan for obtaining the claimed chemical invention. *Fiers v. Revel*, 984F.2d 1164, 1171, 25

> USPQ2d 1601, 1606 (Fed. Dir. 1993). Accordingly, "an adequate written description of a DNA requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it; what is required is a description of the DNA itself." Id. At 1170, 25 USPQ at 1606.
>
> The name cDNA is not itself a written description of that DNA; it conveys no distinguishing information, concerning its identity. While the example provides a process for obtaining human insulin-encoding cDNA, there is not further information in the patent pertaining to that cDNA's relevant structural or physical characteristics; in other words, it thus does not describe human insulin cDNA. Describing a method of preparing a cDNA or even describing the protein that the cDNA encodes, as the example does, does not necessarily describe the cDNA itself. No sequence information indication which nucleotides constitute human cDNA appears in the patent, as appears for rat cDNA in Example 5 of the patent. Accordingly, the specification does not provide a written description of the invention of claim 5.

Therefore, only SEQ ID NO: 1 and the nucleotide sequence encoding SEQ ID NO: 2, but not the full breadth of the claim (or none of the sequences encompassed by the claim) meets the written description provision of 35 USC 112, first paragraph. The species specifically disclosed are not representative of the genus because the genus is highly variant. Therefore, the rejection under 112 written description remains.

Claims 1, 2, 3, 5, 6, 10, and 12, 13, as best understood, are rejected under 35 U.S.C. 112, first paragraph, because the specification is enabling only for claims limited to:

1) A DNA construct, which encodes the polynucleotide sequence of AD7c-NTP is the nucleotide sequence set forth in SEQ ID NO: 1 or a nucleic acid sequence encoding the AD7c-NTP protein set forth in SEQ ID NO: 2, wherein, said AD7c-NTP is under control of a heterologous neuro-specific promoter;

2) The DNA construct of 1, which is contained within a vector.

3) The DNA construct of 1, which is contained in a virion.

4) A host cell transformed with the DNA construct of 1.

5) The host cell of 4, which is a neuronal cell.

6) An *in vitro* method for screening a candidate drug that is potentially useful for the treatment or prevention of Alzheimer's disease, neuroectodermal tumors, malignant astrocytomas, and glioblastomas, which comprises

(a) administering a candidate drug to the host cell of 4, and

(b) detecting at least one of the following:

(i) the suppression or prevention of expression of the protein encoded by the said DNA comprising SEQ ID NO: 1;

(ii) the increased degradation of said protein encoded by said DNA; or

(iii) the reduction of frequency of at least of an one neuritic sprouting, a nerve cell death, a degenerating neurons a neurofibrillary tangles, irregular swollen neurites and axons in the host; due to the drug candidate compared to a control which has not exposed to the candidate drug.

7) The method of 6, wherein said protein has SEQ ID NO: 2.

8) The method of 6, wherein said protein is over-expressed by said host cell.

9) The method of 6, wherein said cell is a neuronal cell, and does not reasonably provide enablement for other claimed embodiments embraced by the breadth of the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized in In re Wands, 858 F.2d 731, 8USPQ2d 1400

(Fed. Cir. 1988). They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Specifically, since the claimed invention is not supported by a sufficient description (for possessing a genus of a DNA molecule encoding at least 40% homology to SEQ ID No: 1) as recited in the claims, particularly in view of the reasons set forth above, one skilled in the art would not have known how to make and use the claimed invention so that it would operate as intended, e.g. said DNA molecule that codes for a protein having which induces neuritic sprouting, nerve cell death, nerve cell degeneration, neurofibrillary tangles, and/or irregular swollen neurites in a host.

In view of the state of the art and the as-filed specification, it is apparent that one skilled in the art would be able to determine a DNA sequence with 40 percent identity to SEQ ID No: 1. However, it is not apparent to one skilled in the art if the nucleic acid sequence with at least 40 percent homology to SEQ ID No: 1, would exhibit the same biological function of SEQ ID No: 1. Since, the relationship between a sequence of a peptide and its tertiary structure (i.e. its activity) are not well understood and are not predictable (e.g. see Chiu et al., *Folding and Design*, 1998, pp. 223-228), it would required undue experimentation for one skilled in the art to arrive at other polynucleotides sequences that have SEQ ID No: 1 activity. In addition, in *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.,* 18 USPQ2d 1016 (Fed. Cir. 1991), the court ruled that a claim to a large genus of possible genetic sequences encoding a protein with a particular function that needs to be determined subsequent to the construction of the genetic sequences may not find sufficient support under 35 U.S.C. 112, first paragraph, if only a few of the sequences that meet the functional limitations of the claim are disclosed and if undue experimentation would be

required of one skilled in the art for the determination of other genetic sequences that are embraced by the claim. This is the case here. In other words, since it would require undue experimentation to identify other DNA sequences that have SEQ ID No: 1 activity, it certainty would require undue experimentation to make their corresponding DNA and, therefore, any other sequences besides the full length cDNA of Seq. ID No: 1 are not enabled.

In conclusion, the as-filed specification and claims coupled with the state of the art at the time the invention was made only provide sufficient guidance and/or evidence to reasonably enable the claimed invention encompassing 1-9, listed above. Given the state of art for determining the core structure of SEQ ID NO: 1, one would have to engage in a large quantity of experimentation in order to practice the full scope of the claimed invention based on the application's disclosure, the unpredictability of the relationship between a sequence of a peptide and its tertiary structure (i.e. its activity) (Chiu et al., *Folding and Design*, 1998, pp. 223-228). In addition, the presence of a working example as provided in the specification does not extrapolate to the full scope of the claimed invention, particularly given that there is no evidence that the DNA sequence (Seq. ID No 1) of AD7c-NTP is a general phenomenon for any sequence with at least 40% homology to Seq. ID No. 1.

Applicants' traverse the rejection of claims 1-6 and 10-13 under 112 enablement for the following reasons: The description of both the structure and the function of the representative species has been provided throughout the specification; One of ordinary skill in the art would know how to generate DNA molecules that share 40% homology with another DNA molecule; Assays are described that can be used to identify DNA molecules that encode proteins that

posses an activity of AD7c-NTP. Therefore, it would require one skilled in the art an undue amount of experimentation to identify the members of the claimed genus . See pages 8-12.

Applicants' traversal is acknowledged and is not found persuasive because the disclosure does not provide a representative number of nucleotide sequences that has an activity of AD7c-nTP other than the nucleotide sequence set forth in SEQ ID NO:1 and the nucleotide sequence encoding the amino acid sequence set forth in SEQ ID NO: 2 for one skilled in the art to make and/or the entire breadth of the claimed invention. In addition, the as-filed specification fails to provide the essential nucleotide or amino acid residues for a representative number of sequences, wherein each sequence is composed of at least 40% homologous to SEQ ID NO: 1, that has an activity of AD7c-NTP when expressed in neuronal cells.

Specifically, since the claimed invention is not supported by a sufficient description (for possessing a genus of a DNA molecule encoding at least 40% homology to SEQ ID No: 1) as recited in the claims, particularly in view of the reasons set forth above, one skilled in the art would not have known how to make and use the claimed invention so that it would operate as intended, e.g. said DNA molecule that codes for a protein having which induces neuritic sprouting, nerve cell death, nerve cell degeneration, neurofibrillary tangles, and/or irregular swollen neurites in a host.

Furthermore, even if the applicants' are able to overcome the 112 written description, the applicants' traversal is still not found persuasive because the traversal is based on working examples for how to identify the DNA molecules that possess activity of AD7c-NTP. The assertion that a biological assay is routine for one skilled in the art does not provide sufficient or factual evidence for one skilled in the art to make and/or use a representative number of

nucleotide sequences with at least 40% homology that has an activity of AD7c-NTP when expressed in neuronal cells and would result an undue amount of experimentation for one skilled in the art because there are an enormous number of nucleotide sequences with 40% homology to SEQ ID NO: 1. Furthermore, the as-filed specification or the applicants' traversal lacks sufficient or factual evidence for which specific sequences exhibit the function as contemplated by the breadth of the claims since it is known for nucleic acids as well as proteins, for example, that even a single nucleotide or amino acid change or mutation can destroy the function of the nucleotide sequence in many instances. The effects of these changes are largely unpredictable as to which mutation has a significant effect versus not (see Chiu and Ngo). Therefore, the assertion that assays are routine for one skilled in the art results in an unpredictable and therefore unreliable correspondence between the sequences and the biological activity of known function and therefore lacks support regarding enablement. Several publications document this unpredictability of the relationship between sequences and function, albeit that certain specific sequences may be found to be conserved over sequences of related function upon a significant amount of further research. Altieri et al. (US Patent No. 6,245,523) teaches a nucleotide sequences with 74.9% homology to applicants' SEQ ID NO: 1 and the sequence has an opposite function from that of the AD7c-NTP protein. Altieiri teaches that the nucleotide sequence inhibits cellular apoptosis. Furthermore, Frangiskakis et al. (Cell, 1996, Vol. 86 abstract) teach a nucleotide sequence with 40.8% homology to SEQ ID NO: 1 that is a protein kinase (abstract). Therefore, the rejection under 112 enablement remains for claims 1-3, 5, 6, 10, and 12-13.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Applicants' traversal for claims 1 and 10-12 under 112 second is acknowledged and is found persuasive. See pages 12-14. The rejections are withdrawn.

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kay Pinkney whose telephone number is (703) 305-3553.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (703) 305-0775. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00 (Eastern Standard Time), with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's mentor, primary examiner, Dave Nguyen can be reached at (703) 305-2024.

If attempts to reach the primary examiner by telephone are unsuccessful, the examiner's supervisor, John L. LeGuyader, SPE - Art Unit 1635, can be reached at (703) 308-0447.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (703) 308-7939.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

DAVE T. NGUYEN
PRIMARY EXAMINER

Brian Whiteman
Patent Examiner, Group 1635
4/5/02